

# PENDING CLAIMS AS AMENDED

Please amend the claims as follows:

1. (Currently Amended) A method for estimating a reverse link maximum data rate, comprising:  
determining at a source of data a quality metric of a link over which data is to be transmitted[[;]] wherein the quality metric is determined by:

generating an open loop estimate of the quality metric;

generating a closed loop estimate of the quality metric;

filtering the open loop estimate using a first filtering method;

filtering the closed loop estimate using a second filtering method; and

summing the filtered open loop estimate and the filtered closed loop estimate;

modifying [[said]] the quality metric by a ~~quality metric margin~~ transmission power margin; and

determining a maximum rate of data in accordance with [[said]] the modified quality metric.

2. (Cancelled)

3. (Currently Amended) The method as claimed in claim [[2]] 1, wherein ~~said processing said quality metric by a predictor~~ the first filtering method comprises:

filtering said quality metric by a linear filter.

4. (Currently Amended) The method as claimed in claim [[2]] 1, wherein ~~said processing said quality metric by a predictor~~ the first filtering method comprises:

filtering said quality metric by a non-linear filter.

5. (Currently Amended) The method as claimed in claim 4, wherein said filtering [[said]] the quality metric by a non-linear filter comprises:

filtering said quality metric by a peak filter.

6. (Cancelled)

7. (Currently Amended) The method as claimed in claim 1, wherein [[said]] determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

receiving at a source of data at least one first reference signal; and

determining [[said]] the quality metric in accordance with the received at least one first reference signal ~~and the at least one first reference signal~~.

8. (Currently Amended) The method as claimed in claim 1, wherein [[said]] determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

receiving at a source of data a feedback signal; and

determining the quality metric in accordance with the received feedback signal.

9. (Currently Amended) The method as claimed in claim 1, wherein [[said]] determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

receiving at a source of data at least one signal;

receiving at a source of data a feedback signal; and

determining [[said]] the quality metric in accordance with the received at least one signal and the received feedback signal.

10. (Currently Amended) The method as claimed in claim 1, wherein [[said]] determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

receiving at a source of data a reference signal;

receiving at a source of data a feedback signal; and

determining the quality metric in accordance with the reference signal, the received reference signal, and the received feedback signal.

11. (Cancelled)

12. (Currently Amended) The method as claimed in claim 1, wherein [[said]] modifying [[said]] the quality metric by a ~~quality metric margin~~ transmission power margin comprises:

declaring an outage event when power required for transmission of a second reference signal exceeds power required for transmission of the second reference signal determined [[form]] from previously modified quality metric;

detecting occurrence of the outage event during a pre-determined interval; and

modifying [[said]] the quality metric in accordance with [[said]] the detecting.

13. (Currently Amended) The method as claimed in claim 12, wherein [[said]] modifying [[said]] the quality metric in accordance with [[said]] the detecting comprises:

increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of the outage events occurred during the pre-determined interval; and

modifying [[said]] the quality metric by [[said]] the increased ~~quality metric margin~~ transmission power margin.

14. (Currently Amended) The method as claimed in claim 13, further comprising:

decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of the outage events did not occur during the pre-determined interval; and

modifying [[said]] the quality metric by [[said]] the decreased ~~quality metric margin~~ transmission power margin.

15. (Currently Amended) The method as claimed in claim 1, wherein [[said]] modifying [[said]] the quality metric by a ~~quality metric margin~~ transmission power margin comprises:

declaring an outage event when power required for transmission of data at the estimated rate of data exceeds maximum allowable transmission power;

detecting occurrence of the outage event during a pre-determined interval; and

modifying [[said]] the quality metric in accordance with [[said]] the detecting.

16. (Currently Amended) The method as claimed in claim 15, wherein [[said]] modifying [[said]] the quality metric in accordance with [[said]] the detecting comprises:

increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval; and  
modifying [[said]] the quality metric by [[said]] the increased ~~quality metric margin~~ transmission power margin.

17. (Currently Amended) The method as claimed in claim 16, further comprising:

decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; and  
modifying [[said]] the quality metric by [[said]] the decreased ~~quality metric margin~~ transmission power margin.

18. (Currently Amended) The method as claimed in claim 16, wherein [[said]] increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval comprises:

determining whether the estimated rate of data has changed to a maximum allowable rate of data;  
setting a quality metric lower limit to the current value of the quality metric; and  
increasing the quality metric by a first value when a pre-determined number of outages occurred during the pre-determined interval.

19. (Currently Amended) The method as claimed in claim 18, further comprising:

decreasing the power margin by a second value if [[said]] the resulting decreased power margin is greater than the lower limit of the power margin; and  
setting the power margin equal to the lower limit of the power margin otherwise.

20. (Currently Amended) The method as claimed in claim 16, wherein ~~[[said]] the decreasing a current quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; comprises:

determining whether the estimated rate of data has changed to a minimum allowable rate of data;

setting a quality metric upper limit to the current value of the quality metric; and

decreasing the quality metric by a second value when a pre-determined number of outages occurred during the pre-determined interval.

21. (Currently Amended) The method as claimed in claim 20, further comprising:

increasing the power margin by a first value if ~~[[said]] the~~ resulting increased power margin is less than the lower limit of the power margin; and

setting the power margin equal to the lower limit of the power margin otherwise.

22. (Currently Amended) The method as claimed in claim 16, wherein ~~[[said]] increasing a current quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval comprises:

determining whether the estimated rate of data is equal to a maximum allowable rate of data; and

increasing the quality metric by a first value when a pre-determined number of outages occurred during the pre-determined interval.

23. (Original) The method as claimed in claim 22, further comprising:

unchanging the power margin when a pre-determined number of outages did not occur during the pre-determined interval.

24. (Currently Amended) The method as claimed in claim 16, wherein ~~[[said]] decreasing a current quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; comprises:

determining whether the estimated rate of data is equal to a minimum allowable rate of data; and

decreasing the quality metric by a second value when a pre-determined number of outages did not occur during the pre-determined interval.

25. (Original) The method as claimed in claim 20, further comprising:

leaving the power margin unchanged when a pre-determined number of outages occurred during the pre-determined interval.

26. (Currently Amended) The method as claimed in claim 1, wherein [[said]] determining a maximum rate of data in accordance with the modified quality metric comprises:

determining a transmission power in accordance with the modified quality metric; and  
selecting a data rate whose [[said]] the determined transmission power does not exceed maximum allowable transmission power.

27. (Withdrawn)

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45. (Withdrawn)

46. (Currently Amended) An apparatus for estimating a reverse link maximum data rate, comprising:

means for determining at a source of data a quality metric of a link over which data is to be transmitted[[;]], wherein the means for determining the quality metric comprises:

means for generating an open loop estimate of a first quality metric;

means for generating a closed loop estimate of a second quality metric;

means for filtering the open loop estimate using a first filtering means;

means for filtering the closed loop estimate using a second filtering means; and

means for summing the filtered open loop estimate and the filtered closed loop estimate;

means for modifying [[said]] the quality metric by a ~~quality metric margin~~ transmission power margin; and

means for determining a maximum rate of data in accordance with [[said]] the modified quality metric.

47. (Cancelled)

48. (Currently Amended) The apparatus as claimed in claim [[47]] 46, wherein [[said]] the first filtering means ~~for processing said quality metric by a predictor~~ comprises:

means for filtering [[said]] the quality metric by a linear filter.

49. (Currently Amended) The apparatus as claimed in claim [[47]] 46, wherein [[said]] the second filtering means ~~for processing said quality metric by a predictor~~ comprises:

means for filtering [[said]] the quality metric by a non-linear filter.

50. (Currently Amended) The apparatus as claimed in claim 49, wherein ~~[[said]]~~ the means for filtering ~~[[said]]~~ the quality metric by a non-linear filter comprises:  
means for filtering ~~[[said]]~~ the quality metric by a peak filter.

51. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

means for receiving at a source of data at least one signal; and

means for determining ~~[[said]]~~ the quality metric in accordance with the received at least one signal.

52. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

means for receiving at a source of data at least one first reference signal; and

means for determining ~~[[said]]~~ the quality metric in accordance with the received at least one first reference signal ~~and the at least one first reference signal~~.

53. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

means for receiving at a source of data a feedback signal; and

means for determining the quality metric in accordance with the received feedback signal.

54. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

means for receiving at a source of data at least one signal;

means for receiving at a source of data a feedback signal; and



means for determining ~~[[said]]~~ the quality metric in accordance with the received at least one signal and the received feedback signal.

55. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for determining at a source of data a quality metric of a link over which data is to be transmitted comprises:

means for receiving at a source of data a first reference signal;  
means for receiving at a source of data a feedback signal; and  
means for determining the quality metric in accordance with the first reference signal, the received first reference signal, and the received feedback signal.

56. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for modifying the quality metric by a ~~quality metric margin~~ transmission power margin comprises:

means for modifying the quality metric by a pre-determined ~~quality metric margin~~ transmission power margin.

57. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]]~~ the means for modifying ~~[[said]]~~ the quality metric by a ~~quality metric margin~~ transmission power margin comprises:

means for declaring an outage event when power required for transmission of a second reference signal exceeds power required for transmission of the second reference signal determined from previously modified quality metric;  
means for detecting occurrence of the outage event during a pre-determined interval; and  
means for modifying ~~[[said]]~~ the quality metric in accordance with ~~[[said]]~~ the detecting.

58. (Currently Amended) The apparatus as claimed in claim 57, wherein ~~[[said]]~~ the means for modifying ~~[[said]]~~ the quality metric in accordance with ~~[[said]]~~ the detecting comprises:

means for increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of the outage events occurred during the pre-determined interval; and

means for modifying ~~[[said]] the~~ quality metric by ~~[[said]] the~~ increased ~~quality metric margin~~ transmission power margin.

59. (Currently Amended) The apparatus as claimed in claim 58, further comprising:

means for decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of the outage events did not occur during the pre-determined interval; and

means for modifying ~~[[said]] the~~ quality metric by ~~[[said]] the~~ decreased ~~quality metric margin~~ transmission power margin.

60. (Currently Amended) The apparatus as claimed in claim 46, wherein ~~[[said]] the~~ means for modifying ~~[[said]] the~~ quality metric by a ~~quality metric margin~~ transmission power margin comprises:

means for declaring an outage event when power required for transmission of data at the estimated rate of data exceeds maximum allowable transmission power;

means for detecting occurrence of the outage event during a pre-determined interval; and

means for modifying ~~[[said]] the~~ quality metric in accordance with ~~[[said]] the~~ detecting.

61. (Currently Amended) The apparatus as claimed in claim 60, wherein ~~[[said]] the~~ means for modifying ~~[[said]] the~~ quality metric in accordance with ~~[[said]] the~~ detecting comprises:

means for increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval; and

means for modifying ~~[[said]] the~~ quality metric by ~~[[said]] the~~ increased ~~quality metric margin~~ transmission power margin.

62. (Currently Amended) The apparatus as claimed in claim 61, further comprising:

means for decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; and

means for modifying [[said]] the quality metric by [[said]] the decreased ~~quality metric margin~~ transmission power margin.

63. (Currently Amended) The apparatus as claimed in claim 61, wherein [[said]] the means for increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval comprises:

means for determining whether the estimated rate of data has changed to a maximum allowable rate of data;

means for setting a quality metric lower limit to the current value of the quality metric; and

means for increasing the quality metric by a first value when a pre-determined number of outages occurred during the pre-determined interval.

64. (Currently Amended) The apparatus as claimed in claim 63, further comprising:

means for decreasing the power margin by a second value if [[said]] the resulting decreased power margin is greater than the lower limit of the power margin; and

means for setting the power margin equal to the lower limit of the power margin otherwise.

65. (Currently Amended) The apparatus as claimed in claim 62, wherein [[said]] the means for decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; comprises:

means for determining whether the estimated rate of data has changed to a minimum allowable rate of data;

means for setting a quality metric upper limit to the current value of the quality metric; and

means for decreasing the quality metric by a second value when a pre-determined number of outages occurred during the pre-determined interval.

66. (Currently Amended) The apparatus as claimed in claim 65, further comprising:

means for increasing the power margin by a first value if [[said]] the resulting increased power margin is less than the lower limit of the power margin; and

means for setting the power margin equal to the lower limit of the power margin otherwise.

67. (Currently Amended) The apparatus as claimed in claim 61, wherein [[said]] the means for increasing a current ~~quality metric margin~~ transmission power margin by a first amount when a pre-determined number of outages occurred during the pre-determined interval comprises:

means for determining whether the estimated rate of data is equal to a maximum allowable rate of data; and

means for increasing the quality metric by a first value when a pre-determined number of outages occurred during the pre-determined interval.

68. (Original) The apparatus as claimed in claim 67, further comprising:

means for leaving the power margin unchanged when a pre-determined number of outages did not occur during the pre-determined interval.

69. (Currently Amended) The apparatus as claimed in claim 61, wherein [[said]] the means for decreasing a current ~~quality metric margin~~ transmission power margin by a second amount when the pre-determined number of outages did not occur during the pre-determined interval; comprises:

means for determining whether the estimated rate of data is equal to a minimum allowable rate of data; and

means for decreasing the quality metric by a second value when a pre-determined number of outages did not occur during the pre-determined interval.

70. (Original) The apparatus as claimed in claim 69, further comprising:

means for leaving the power margin unchanged when a pre-determined number of outages occurred during the pre-determined interval.

71. (Currently Amended) The apparatus as claimed in claim 46, wherein [[said]] the means for determining a maximum rate of data in accordance with the modified quality metric comprises:

means for determining a transmission power in accordance with the modified quality metric; and

means for selecting a data rate whose [[said]] the determined transmission power does not exceed maximum allowable transmission power.

72. (Withdrawn)

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90. (Withdrawn)

91. (Currently Amended) An apparatus for estimating a reverse link maximum data rate, comprising:

an estimator configured to determine at a source of data a quality metric of a link over which data is to be transmitted;

a combiner communicatively coupled to [[said]] the estimator configured to modify the quality metric by a ~~quality metric margin~~ transmission power margin; and

a processing block communicatively coupled to [[said]] the combiner configured to determine a maximum rate of data in accordance with the modified quality metric.

92. (Currently Amended) The apparatus as claimed in claim 91, wherein [[said]] the estimator comprises a predictor.

93. (Currently Amended) The apparatus as claimed in claim 92, wherein [[said]] the predictor comprises a linear filter.

94. (Currently Amended) The apparatus as claimed in claim 92, wherein [[said]] the predictor comprises a non-linear filter.

95. (Currently Amended) The apparatus as claimed in claim 94, wherein [[said]] the non-linear filter comprises a peak filter.

96. (Currently Amended) The apparatus as claimed in claim 91, wherein [[said]] the estimator comprises an open loop estimator.

97. (Currently Amended) The apparatus as claimed in claim 91, wherein [[said]] the estimator comprises a closed loop estimator.

98. (Currently Amended) The apparatus as claimed in claim 91, wherein [[said]] the estimator comprises:

an open loop estimator;  
a closed loop estimator; and  
a combiner communicatively coupled to ~~[[said]]~~ the open loop estimator and a open loop estimator.

99. (Currently Amended) The apparatus as claimed in claim 91, further comprising an outage event detector communicatively coupled to ~~[[said]]~~ the combiner.

100. (Withdrawn)

101. (Withdrawn)

102. (Withdrawn)

103. (Withdrawn)

104. (Withdrawn)

105. (Withdrawn)

106. (Withdrawn)

107. (Withdrawn)

108. (Withdrawn)

109. (New) The method as claimed in claim 1, wherein the second filtering method comprises: filtering said quality metric by a linear filter.

110. (New) The method as claimed in claim 1, wherein the second filtering method comprises:

filtering said quality metric by a non-linear filter.

111. (New) The method as claimed in claim 110, wherein said filtering the quality metric by a non-linear filter comprises:

filtering said quality metric by a peak filter.

112. (New) The apparatus as claimed in claim 46, wherein the first filtering means comprises: means for filtering the quality metric by a linear filter.

113. (New) The apparatus as claimed in claim 46, wherein the second filtering means comprises: means for filtering the quality metric by a non-linear filter.

114. (New) The apparatus as claimed in claim 113, wherein the means for filtering the quality metric by a non-linear filter comprises:

means for filtering the quality metric by a peak filter.